

CHAPTER 4



AVIATION ELECTRICIAN'S MATE (AE)

NAVPERS 18068-4E

CH-58

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NAVY ENLISTED OCCUPATIONAL STANDARD

FOR

AVIATION ELECTRICIAN'S MATE (AE)



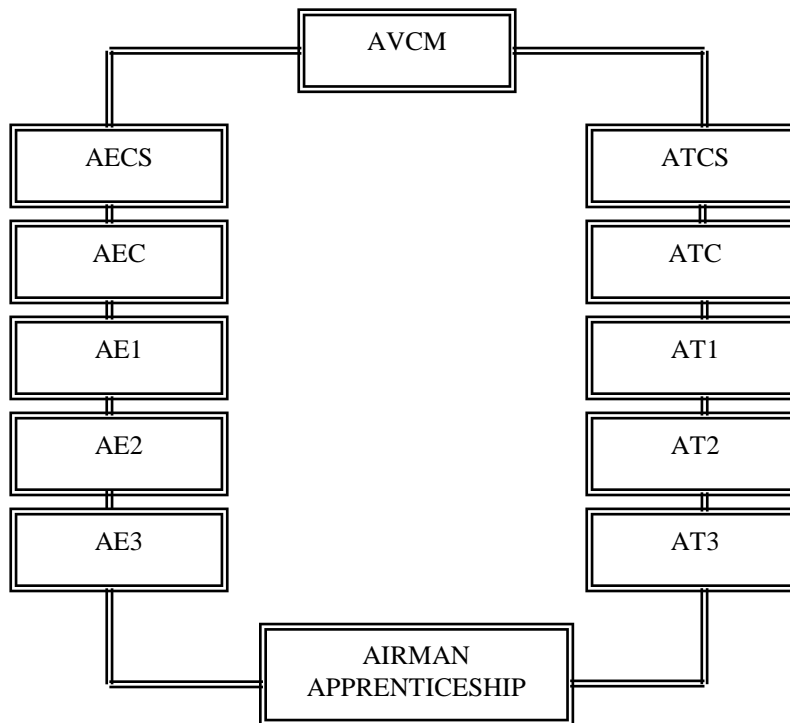
SCOPE OF RATING

Aviation Electrician's Mates (AE) maintain electrical and instrument systems, including power generation, conversion, and distribution systems, aircraft batteries, and interior and exterior lighting; and maintain electrical control of aircraft systems, including hydraulic, landing gear, flight control, utility, and power plant engine, flight and non-instrument-type indicating and warning systems, automatic flight control and stabilization systems, aircraft compass systems, attitude reference systems, and inertial navigation systems.

This Occupational Standard is to be incorporated in Volume I, Part B, of the Manual of Navy Enlisted Manpower and Personnel Classifications and Occupational Standards (NAVPERS 18068F) as Chapter 4.

GENERAL INFORMATION

CAREER PATTERN



Normal path of advancement to Chief Warrant Officer and Limited Duty Officer categories can be found in OPNAVINST 1420.1.

For rating entry requirements, refer to MILPERSMAN 1306-618.

SAFETY

The observance of Operational Risk Management (ORM) and proper safety precautions in all areas is an integral part of each billet and the responsibility of every Sailor; therefore, it is a universal requirement for all ratings.

Job Title**Aviation Electrician's Mate Intermediate Level Technician****Job Code****001472****Job Family**

Installation, Maintenance, and Repair

NOC

TBD

Short Title (30 Characters)

AVIA I-LEVEL ELECTRICIAN

Short Title (10 Characters)

ILVL ELECT

Pay Plan

Enlisted

Career Field

AE

Other Relationships and Rules

NEC 1591, 6422, 6701, 71XX series, 8300 and 8800

Job Description

Aviation Electrician's Mate Intermediate Level Technicians communicate with Production Control and Quality Assurance work centers and operate according to the Naval Aviation Maintenance Program (NAMP); maintain and inspect a wide array of equipment including: electrical and electronic components, batteries, inertial navigation units, test sets and electronic module test consoles, aircraft instruments, generators and generator power distribution equipment, and night vision goggles; and conduct system troubleshooting procedures using critical thinking skills and deductive reasoning to interpret schematics for electrical and electronic circuits

DoD Relationship**Group Title**

Aircraft Accessories

DoD Code

160200

O*NET Relationship**Occupation Title**

Avionics Technicians

SOC Code

49-2091.00

Job FamilyInstallation, Maintenance,
And Repair**Skills***Management of Material Resources**Complex Problem Solving**Repairing**Troubleshooting**Systems Evaluation**Quality Control Analysis**Equipment Maintenance**Coordination**Monitoring**Reading Comprehension***Abilities***Deductive Reasoning**Problem Sensitivity**Manual Dexterity**Written Comprehension**Control Precision**Finger Dexterity**Inductive Reasoning**Oral Expression**Written Expression**Information Ordering***AIRCRAFT ELECTRICAL SYSTEMS****Paygrade**

E4

Task Type

CORE

Task Statements

Maintain master caution advisory systems

E4

CORE

Repair landing gear and electrical system components

E4

CORE

Test aircraft electrical systems

AIRCRAFT INSTRUMENTS**Paygrade**

E4

Task Type

CORE

Task Statements

Repair Flight Director Indicators (FDI)

E4

CORE

Repair liquid quantity indicators

E4

CORE

Repair pitot static indicators

E4

CORE

Troubleshoot aircraft instruments

E4

CORE

Troubleshoot flight instrument components

E4

CORE

Troubleshoot liquid quantity indicators

E4

CORE

Troubleshoot pitot static instruments

AIRCRAFT POWER PLANT ELECTRICAL SYSTEMS**Paygrade**

E4

Task Type

CORE

Task Statements

Repair aircraft power plant electrical system components

E4

CORE

Repair fuel system components

E4

CORE

Troubleshoot aircraft power plant electrical system components

E4

CORE

Troubleshoot fuel system components

AUTOMATIC FLIGHT CONTROL SYSTEMS

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E4	CORE	Repair flight control system components
E4	CORE	Repair flight surface indicating device components
E4	CORE	Troubleshoot flight control systems components
E4	CORE	Troubleshoot flight surface indicating device components

COMPASS AND INERTIAL NAVIGATION SYSTEMS

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E4	CORE	Repair aircraft navigation components (electrical and electronic)

ELECTRICAL MAINTENANCE

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E4	CORE	Build aircraft wiring harnesses
E4	CORE	Incorporate Technical Directives (TD)
E5	CORE	Perform acceptance inspections
E5	CORE	Perform conditional inspections
E5	CORE	Perform special inspections
E5	CORE	Perform transfer inspections
E5	CORE	Perform zonal inspections
E4	CORE	Repair aircraft wiring harnesses
E4	CORE	Repair airframe electrical system components
E4	CORE	Repair circuit cards
E4	CORE	Repair electrical components
E4	CORE	Repair emergency system components
E4	CORE	Repair Environmental Control System (ECS) components
E4	CORE	Repair lighting system components
E4	CORE	Treat corrosion on aircraft components
E4	CORE	Treat corrosion on aircraft electrical components
E4	CORE	Troubleshoot aircraft circuit protection devices
E4	CORE	Troubleshoot aircraft wiring
E4	CORE	Troubleshoot airframe electrical system components
E4	CORE	Troubleshoot electrical components
E4	CORE	Troubleshoot retrograde wiring harnesses

MAINTENANCE ADMINISTRATION

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E5	CORE	Brief maintenance operations (maintenance, production control, and workcenter)
E4	CORE	Document maintenance actions
E7	CORE	Manage Production Control (PC) operations
E5	CORE	Update Monthly Maintenance Plan (MMP)

POWER GENERATION AND DISTRIBUTION SYSTEMS

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E4	CORE	Maintain aircraft batteries
E4	CORE	Repair aircraft electrical power distribution systems and components
E4	CORE	Repair aircraft generators
E4	CORE	Repair aircraft supervisory panels and voltage regulators
E4	CORE	Repair aircraft transformer rectifiers and inverters

E4	CORE	Repair Bus Power Control Units (BPCU)
E4	CORE	Repair Generator Control Units (GCU)
E4	CORE	Test aircraft batteries
E4	CORE	Troubleshoot aircraft batteries
E4	CORE	Troubleshoot aircraft electrical power distribution system components
E4	CORE	Troubleshoot aircraft generators
E4	CORE	Troubleshoot aircraft supervisory panels
E4	CORE	Troubleshoot aircraft transformers (inverters, rectifiers, and power supplies)
E4	CORE	Troubleshoot aircraft voltage regulators
E4	CORE	Troubleshoot Bus Power Control Units (BPCU)
E4	CORE	Troubleshoot Generator Control Units (GCU)

QUALITY ASSURANCE

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E5	CORE	Conduct Collateral Duty Inspections (CDI)
E6	CORE	Conduct Quality Assurance (QA) inspections
E6	CORE	Manage Naval Aviation Maintenance Programs (NAMP)
E6	CORE	Monitor Naval Aviation Maintenance Programs (NAMP)
E6	CORE	Supervise Fleet Readiness Center (FRC) electrical maintenance

Job Title**Aviation Electrician's Mate Organizational Level Technician****Job Code****001527****Job Family**

Installation, Maintenance, and Repair

NOC

TBD

Short Title (30 Characters)

AVIA O-LEVEL ELECTRICIAN

Short Title (10 Characters)

OLVL ELECT

Pay Plan

Enlisted

Career Field

AE

Other Relationships and Rules

NEC 6701, 7182, 83XX, and 88XX series

Job Description

Aviation Electrician's Mate Organizational Level Technicians communicate with Maintenance Control and Quality Assurance work centers and operate according to the Naval Aviation Maintenance Program (NAMP); maintain, troubleshoot, repair, and inspect a wide array of electrical and electronic equipment including: aircraft electrical systems, aircraft instrumentation equipment, aircraft power plants related equipment, aircraft airframe related aircraft utility equipment; and conduct system troubleshooting procedures using critical thinking skills and deductive reasoning to interpret schematics for electrical and electronic circuits.

DoD Relationship**Group Title**

Aircraft Accessories

DoD Code

160200

O*NET Relationship**Occupation Title**

Avionics Technicians

SOC Code

49-2091.00

Job FamilyInstallation, Maintenance,
and Repair**Skills***Systems Evaluation**Equipment Maintenance**Complex Problem Solving**Troubleshooting**Quality Control Analysis**Management of Material Resources**Repairing**Coordination**Reading Comprehension**Operation and Control***Abilities***Deductive Reasoning**Written Comprehension**Manual Dexterity**Problem Sensitivity**Control Precision**Oral Expression**Finger Dexterity**Inductive Reasoning**Information Ordering**Static Strength***AIRCRAFT ELECTRICAL SYSTEMS****Paygrade****Task Type****Task Statements**

E4

CORE

Maintain flight data recorders

E4

CORE

Maintain lighting system components

E4

CORE

Maintain master caution advisory systems

E4

CORE

Repair landing gear and electrical system components

E4

CORE

Test aircraft electrical systems

AIRCRAFT INSTRUMENTS**Paygrade****Task Type****Task Statements**

E4

CORE

Maintain Flight Director Indicators (FDI)

E4

CORE

Maintain liquid quantity systems

AIRCRAFT POWER PLANT ELECTRICAL SYSTEMS**Paygrade****Task Type****Task Statements**

E4

CORE

Maintain aircraft power plant electrical components

E4

NON-CORE

Maintain blade-fold systems

E4

CORE

Maintain fuel system components

E4

CORE

Maintain propeller electrical systems

E4

NON-CORE

Repair blade-fold systems

E4

CORE

Repair fuel system components

E4	CORE	Troubleshoot aircraft power plant electrical system components
E4	NON-CORE	Troubleshoot blade/propeller electrical systems

AUTOMATIC FLIGHT CONTROL SYSTEMS

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E4	CORE	Maintain flight control system components
E4	CORE	Maintain flight surface indicating device components

COMPASS AND INERTIAL NAVIGATION SYSTEMS

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E4	NON-CORE	Calibrate aircraft navigation systems
E4	CORE	Maintain aircraft Inertial Navigation Systems (INS)
E4	CORE	Maintain aircraft navigation electrical components
E4	CORE	Troubleshoot aircraft navigation systems (electrical and electronic)

ELECTRICAL MAINTENANCE

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E4	CORE	Build aircraft wiring harnesses
E4	CORE	Incorporate Technical Directives (TD)
E4	CORE	Maintain aircraft circuit protection devices
E4	CORE	Maintain aircraft wiring
E4	CORE	Maintain aircraft wiring devices
E4	CORE	Maintain airframe electrical systems components
E4	CORE	Maintain landing gear and electrical system components
E4	CORE	Maintain miscellaneous electrical components
E4	CORE	Maintain pitot static systems
E5	CORE	Perform acceptance inspections
E5	CORE	Perform conditional inspections
E4	CORE	Perform daily inspections
E4	CORE	Perform phase inspections
E5	CORE	Perform special inspections
E5	CORE	Perform transfer inspections
E4	CORE	Perform turnaround inspections
E5	CORE	Perform zonal inspections
E4	CORE	Repair aircraft wiring harnesses
E4	CORE	Repair lighting system components
E4	CORE	Test aircraft electronic systems
E4	NON-CORE	Test Joint Helmet Mount Cueing Systems (JHMCS)
E4	CORE	Treat corrosion on aircraft components
E4	CORE	Treat corrosion on aircraft electrical components
E4	CORE	Troubleshoot aircraft circuit protection devices
E4	CORE	Troubleshoot aircraft emergency systems
E4	CORE	Troubleshoot aircraft wiring
E4	CORE	Troubleshoot Environmental Control Systems (ECS)
E4	NON-CORE	Troubleshoot Joint Helmet Mount Cueing Systems (JHMCS)
E4	CORE	Troubleshoot lighting systems

MAINTENANCE ADMINISTRATION

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E5	CORE	Brief maintenance operations (maintenance, production control, and workcenter)
E7	CORE	Certify aircraft safe for flight
E4	CORE	Document maintenance actions
E7	CORE	Manage flight deck and flight line operations
E6	CORE	Manage functional check flight requirements
E7	CORE	Manage Maintenance Control (MC) operations
E5	CORE	Review Aircraft Discrepancy Book (ADB)
E5	CORE	Review Maintenance Data Reports (MDR)
E5	CORE	Update Monthly Maintenance Plan (MMP)

POWER GENERATION AND DISTRIBUTION SYSTEMS

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E4	CORE	Maintain aircraft batteries
E4	CORE	Maintain aircraft generators
E4	CORE	Maintain aircraft supervisory panels and voltage regulators
E4	CORE	Maintain aircraft transformer rectifiers, converters and inverters
E4	CORE	Maintain Bus Power Control Units (BPCU)
E4	CORE	Maintain generator control systems
E4	CORE	Repair aircraft electrical power distribution systems and components
E4	CORE	Test aircraft batteries
E4	CORE	Troubleshoot aircraft batteries
E4	CORE	Troubleshoot aircraft electrical power distribution system components
E4	CORE	Troubleshoot Bus Power Control Units (BPCU)

QUALITY ASSURANCE

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E5	CORE	Conduct Collateral Duty Inspections (CDI)
E6	CORE	Conduct Quality Assurance (QA) inspections
E6	CORE	Manage Naval Aviation Maintenance Programs (NAMP)
E6	CORE	Monitor Naval Aviation Maintenance Programs (NAMP)
E6	CORE	Supervise aircraft electrical maintenance